

Use of \$2.2 Million RICO Funds for Communications Interoperability

***Presented to the PSCC
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Background

- In 2007, the State legislature directed \$2.2M in FY2007-2008 anti-racketeering funds be used for "the detailed design of the long-term interoperability solution." When PSCC was transitioned to GITA, the funds were transferred as well.
- In 2006, DPS commissioned Federal Engineering to conduct a high level, conceptual design study.
- Published in 2008, the study recommended a statewide radio system for State agency users at a cost of \$217 million dollars (not including costs of upgrading the State's microwave backbone to digital technology).



System of Systems

- The conceptual design report calls for “a statewide trunked radio systems based on Project 25 (P25) standards, which will provide operability and interoperability for state and local agencies. The (proposed) system is also able to use a high-level network interface to enable interoperability with other systems.”
- In 2008, a successful demonstration project confirmed console patch and inter-system connectivity as potential solutions.
- In January 2010, the PSCC approved an updated Statewide Communications Interoperability Plan (SCIP) with 12 strategic initiatives. At a high level the SCIP describes the linking of regional systems with one another and with state systems to facilitate long-term interoperability.



Request

- On April 21, 2010, The Joint Legislative Budget Committee (JLBC) requested PSIC submit an expenditure plan that addresses the use of the \$2.2 million dollars.
- The State is making significant progress on component parts of the statewide system contemplated by the conceptual design.
- The RICO funds could provide tremendous benefit to advancing communications interoperability in keeping with this long term system design.
- PSIC proposes use of the RICO funds consistent with Arizona's SCIP and the conceptual design to advance communications interoperability.



Consultation

- To help develop a recommendation, the PSIC Office requested input and reviewed possible approaches with:
 - PSCC - April 21, 2010 meeting
 - SIEC - May 18, 2010 meeting
 - DPS, ADOT and AZDOHS – June 8, 2010 meeting
 - Public Safety Partners & Stakeholders - June to Sept 2010
 - PSCC - July 20, 2010 meeting
 - DPS, ADOT and AZDOHS – September 15, 2010 meeting
- Based on final feedback received today from PSCC, PSIC will submit its recommendation memorandum to the JLBC.



Proposal

- PSIC received a proposal from Yuma Regional Communications System (YRCS) regarding possible use of this money on April 23, 2010. PSIC received a more detailed proposal from YRCS on May 13, 2010.
- In summary, a cooperative effort by the Yuma Regional Communications Systems (YRCS), supported by the Arizona Department of Public Safety (DPS) upgraded digital microwave system, can deploy standards-based P25 communications capability at key transmitter sites along the southern region.
- The proposal would provide high level connectivity for existing and developing communication systems, thus increasing interoperability capabilities during multi-jurisdictional multi-agency response, recovery, and mitigation to critical incidents.



YRCS Participants

- YRCS is a standards based P-25 shared system.
- YRCS users include public safety and service agencies for:
 - Local – City of Yuma, Yuma County (*5,522 square miles*), City of Somerton, City of San Luis, Town of Welton
 - Tribal – Quechan Indian Tribe, Cocopah Indian Tribe
 - Federal – FBI, ATF, USCBP (vhf), Marine Corps Air Station, US Army Proving Grounds, Dept of Interior (*in process*)
 - State Agencies – DPS (uhf), DEMA (State EOC), ADOT
 - NGOs – Rural Metro, Air Medvac, Yuma Regional Medical Center
 - Other States – Key exchange IGA with San Diego RCS and Imperial Valley Emergency Communications Association



YRCS Partnership with DPS & ADOT

- Conventional Channel Gateways to be installed at each transmitter site would enable patching of conventional channels with trunked talkgroups.
- The proposed detailed design build-out is modeled after a successful partnership between DPS and YRCS. DPS operates on a UHF system and needs to connect with local agencies operating on VHF and 700/800 MHz.
- DPS entered into a partnership with YRCS to use its master site controller in regard to P25 sites built by DPS and connected by DPS' microwave link at South Mountain (Phoenix) and Mount Lemmon (Tucson). These sites expanded the footprint of the YRCS system and enable interoperability between DPS and YRCS agencies. DPS joint operations taskforces utilize the expanded system today.
- ADOT received approval from the Information Technology Advisory Council (ITAC) on August 25, 2010 to begin a similar project for 2 other sites – White Tanks and Thompson Peak.
- ADOT's current system is end of life. The utilization of the YRCS/DPS partnership is enabling ADOT to jumpstart system replacement for a significantly reduced investment.



Proposed Build-out

- The six sites proposed for the detailed design build out are existing DPS transmitter sites that can be enhanced quickly – each site is already configured with battery banks, generators, building and towers as well as microwave connectivity to YRCS site controller
- Recommended sites:
 - 1) Keystone Mountain
 - 2) Nogales Hill
 - 3) Texas Canyon
 - 4) Mule Mountain
 - 5) Bernadino Peak
 - 6) Dos Cabezas



Border Region Support

- These sites would expand coverage to the four southern Arizona border counties
 - enabling linkage between local and state systems and
 - increasing 700 MHz digital coverage (for interoperability) in the Southwest border region by approximately 6500 square miles.
- Any operability usage of the system will need to be negotiated jointly with DPS and YRCS.
- YRCS presented its proposal to Arizona Department of Homeland Security's Southern Regional Advisory Council (RAC) on June 18, 2010 and the SRAC endorsed the proposal as beneficial to its region. (A support letter has been provided and will accompany the proposal.)
- PSIC reviewed this proposal with DPS, ADOT and AZDOHS on June 8, 2010 and in more detail on September 15, 2010. These agencies favored moving forward with the proposal and have written letters of support for the proposal.

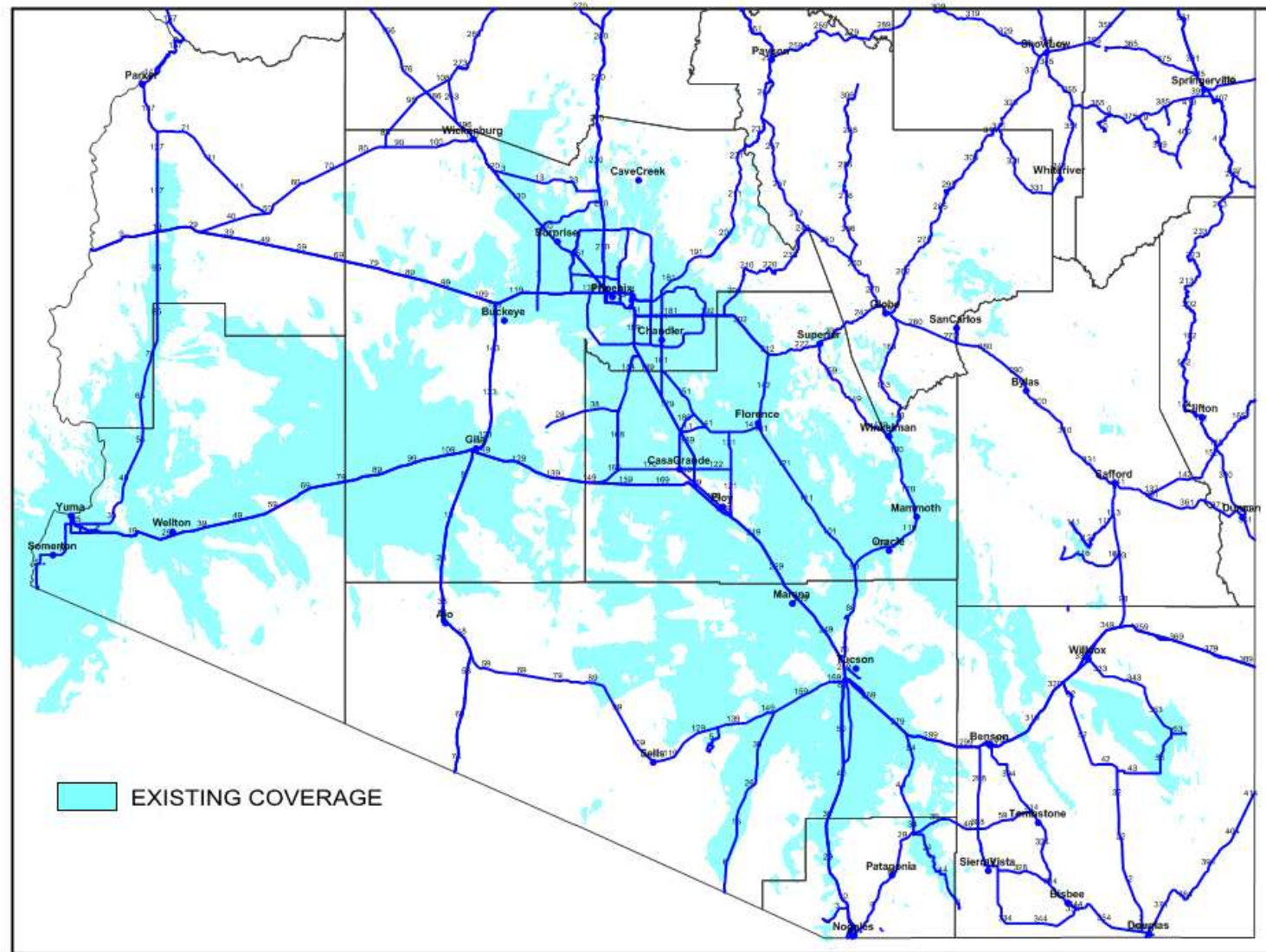


Benefits to be Achieved

- Build on existing investments:
 - Digital microwave upgrade in Southern Arizona (\$8.6 million)
 - YRCS build-out through use of master site controller (\$17 million)
 - Connection to DPS build out and ADOT planned build out (\$5 million)
- Expand coverage to 4 southern border counties enabling linkage between local and state systems.
- Enable future linkage to PCWIN – Pima County Wireless Integrated Network – being built to similar modern communications specifications.
- Deliver wide coverage - increasing 700 MHz digital coverage in the Southwest border region by approximately 6500 square miles – for moderate financial investment
- Provide high level connectivity for existing and developing communication systems, thus increasing interoperability capabilities during multi-jurisdictional multi-agency response, recovery, and mitigation to critical incidents in high risk areas.

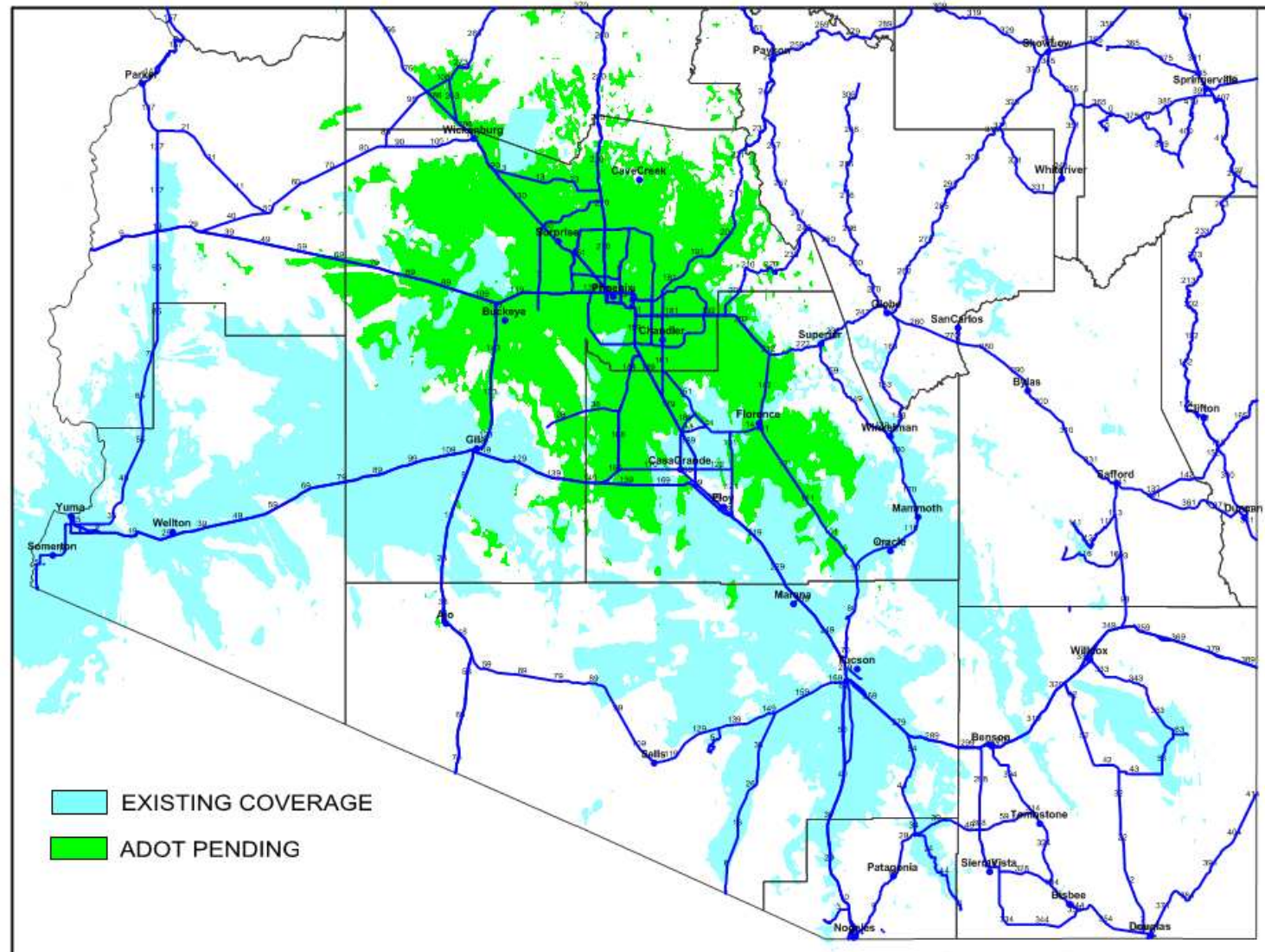


Existing Coverage



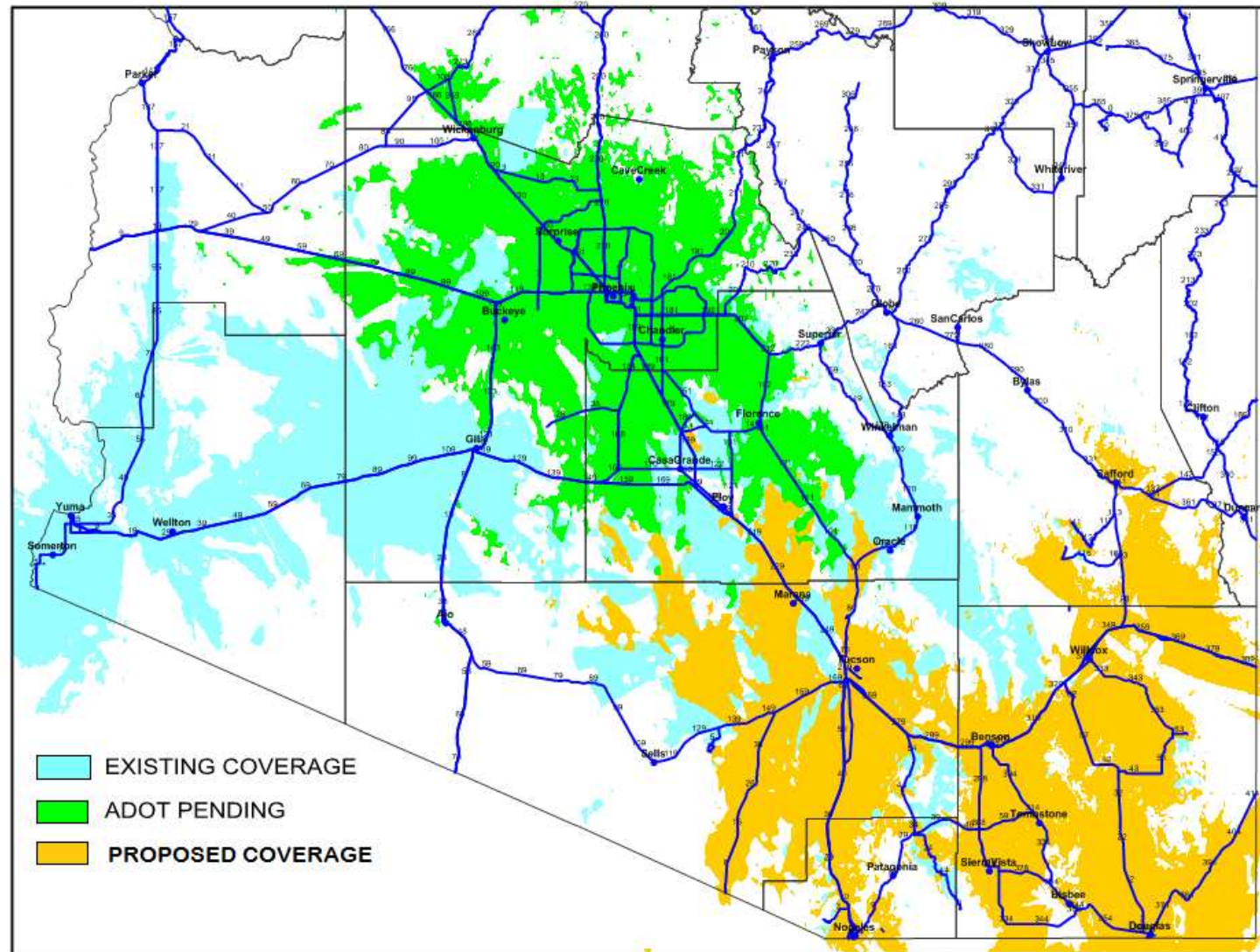


With Pending ADOT Expansion





With Proposed Build-out





Alternatives Considered

- Design Study
 - Macro Report 2001
 - Federal Engineering Report 2008
 - Detailed Design developed by YRCS and DPS (in house) for Southern portions of statewide system saving outside fees for design
- Purchase of Additional STR Type Assets (ACU 1000, STACs, IPICs, etc.)
 - Not aligned with intended usage for long-term interoperability
 - Other sources for these funds (Federal Homeland Security)
- Purchasing of a Zone Controller (back-up) for Phoenix Metro area
 - Important as the YRCS/DPS/ADOT footprint expands but costly \$2.5 to 3 million
 - Will likely require an upgrade (\$1 million) to YRCS as well
 - DPS and ADOT are looking for other funding sources for such a controller



Alternatives Considered, *cont.*

- Expansion of AIRS

- AIRS was built by DPS to provide some basic form of interoperability statewide. PSIC has supported expansion of AIRS usage through development of an SOP for the system and a statewide training program.
- DPS has placed AIRS suites in locations where communication site space is available. From time to time local agencies are able to offer sites to enable further AIRS expansion.
- AIRS is a good mid-term solution until regional and state systems can be expanded and connected pursuant to the conceptual design.
- AIRS is a single channel solution. To expand beyond this channel would require identifying a vhf/uhf pair statewide which would be difficult with limited frequency availability. In addition a lot of engineering would be required to determine where AIRS could be expanded.
- The SIEC is planning to study AIRS usage and limitations and make recommendations to the PSCC regarding whether and how to expand AIRS. Until such an evaluation is complete, investing a significant amount of additional funds in AIRS would not be recommended.



Rollout - State Agency Interoperability

- To support the orderly expansion of the system without negatively impacting existing DPS / YRCS operations, the project will first establish baseline interoperability for state agency users.
- In 2011 we will install the six additional sites.
- PSIC will establish the necessary governance structures regarding how, when and who can use the system for interoperability. This includes the development of governance agreements and the identification of interoperability channels. PSIC will consult with DPS, YRCS, SIEC and PSCC on governance.
- After installation of the six sites, connections with the State Emergency Operations Center (EOC) and other strategic connections would be established.



Rollout Continues - Local Agency Interoperability

- After establishing baseline interoperability for state agency users, the system would then be expanded to support local agency use of the system.
- The programming of talk groups and installation of control stations at Public Safety Answering Points (PSAP) would help tie in local agencies to the system for interoperability purposes. Interoperability usage through tie in of dispatch centers will be enabled by DPS and YRCS.
- In addition, a hardware/software system upgrade would be completed to support future expansion of the system. This expansion could include the addition of a zone controller for DPS and/or additional sites in other locations.



Budget

State Agency Interoperability

Site Equipment 6 sites (5 channel sites)	\$960,000.00
Antennas at 6 sites with coax and connectivity	\$35,000.00
Install materials 6 sites includes antenna install and optimization	\$120,000.00
Spares Kit for DPS	\$25,000.00
Equipment for State EOC and other strategic connections	\$25,000.00

Local Agency Interoperability and Expansion

Software system upgrade for master controller* to support future expansion of system to include potential add of zone controller and/or additional site expansion*	\$790,000.00
Hardware system upgrade for site servers*	\$100,000.00
Training, travel, materials	\$80,000.00
PSAP Control stations 10 (XTL1500 ps, ant, install)	\$65,000.00

TOTAL BUDGET	\$2,200,000.00
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** In the event that the necessary system upgrades can be funded through other sources, additional sites will be funded with the RICO funds instead in accordance with an updated plan to be submitted by PSIC with its JLBC quarterly report.*



Others Costs; Governance

- Installation will be provided by YRCS and DPS pursuant to site agreements under an existing master IGA.
- Training will be provided by YRCS staff.
- All equipment will be owned by DPS and on-going maintenance will be provided by DPS staff.
- Governance - rules (similar to the Arizona Interagency Radio System Standard Operating Procedures) regarding how, when and who can use the system for interoperability – will be developed by PSIC in consultation with DPS, YRCS, SIEC and PSCC.



Proposed Timeline

- September – October 2010 – Seek Approval of JLBC (GITA)
- October – December 2010 – Seek Information Technology Authorization Committee (ITAC) Approval (GITA/DPS); Develop Detailed Project Plans; Sign IGAs and/or Site Supplemental Agreements between GITA, YRCS and DPS
- 2011: 6 Site Build-outs (YRCS/DPS led effort); Governance Established (PSIC/PSCC led effort); Creation of Interoperability Zone Plan (PSIC/PSCC led effort)
- First Half of 2012: Once Governance is in place and sites are stable, Program Talk Groups for Local Agencies & Provide Training (YRCS led effort); Perform System Upgrade (YRCS led effort) (or Site Expansion)



PSCC Action Requested

- PSIC recommends the \$2.2 million in FY 2007-2008 anti-racketeering funds be used to expand standards-based P25 communications capability in the southern region utilizing the YRCS Master Site Controller and supported by the Arizona Department of Public Safety (DPS) upgraded digital microwave system.
- ACTION REQUESTED:

PSIC requests a favorable review from PSCC of its recommendation to JLBC for the use of the \$2.2 million in FY 2007-2008 anti-racketeering funds.